



- Industrial Hygiene / IAQ
- Hazardous Building Materials
- Environmental Assessments
- Laboratory Services & Training

SELF-IMPLEMENTING ON-SITE CLEANUP AND  
DISPOSAL PLAN FOR PCB CONTAINING CAULK AND SOIL

4 Elmcrest Terrace  
Norwalk, Connecticut

Liberations Programs, Inc.  
129 Glover Avenue  
Norwalk, Connecticut

July 26, 2012

**EAGLE ENVIRONMENTAL, INC.**  
531 North Main Street  
Bristol, CT 06010



- Industrial Hygiene / IAQ
- Hazardous Building Materials
- Environmental Assessments
- Laboratory Services & Training

July 26, 2012

Ms. Kimberly N. Tisa  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Mail Code: SORR07-2  
Boston, MA 02109-3912

**RE: Self-Implementing On-Site Cleanup and Disposal Plan  
For PCB-Containing Caulk and Soil  
4 Elmcrest Terrace  
Norwalk, Connecticut  
Eagle Project No. 11-154.10A**

Dear Ms. Tisa:


Eagle Environmental, Inc. (Eagle) is submitting this Self-Implementing On-Site Cleanup and Disposal Plan (SIP) for PCB-containing window frame caulk, doorframe caulk, A/C sleeve caulk and soil at the above referenced site in accordance with Section 761 (a) (2) and the notification requirement Section 761.61(a) (3) of USEPA Regulation 40 CFR Part 761.

The objective of this plan is to remove all caulk containing greater than one (1) ppm PCB from window openings, A/C sleeves, door openings, ventilation openings, and lintels. Soils and porous substrates containing PCB greater than one (1) ppm PCB will also be removed from the site.

The remediation plan proposes the removal and off site disposal of PCB Bulk Product and Remediation Waste in accordance with §761.62 (a) and/or §761.62 (b).

Should you have any questions regarding this plan, please contact me at (860) 589-8257 extension 204. We are looking forward to your review and approval of this Plan.

Sincerely,  
**Eagle Environmental, Inc.**

  
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Chris Liberti  
Senior Project Manager

Cc: Gary Trombley, CT Department of Environmental Protection  
Mr. Frank Farias, Liberation Programs, Inc., 129 Avenue, Norwalk, Connecticut 06850

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SELF-IMPLEMENTING ON-SITE CLEANUP AND DISPOSAL PLAN FOR PCB-  
CONTAINING CAULK AND SOIL  
4 ELMCREST TERRANCE, NORWALK, CONNECTICUT

This Self-Implementing On-Site Cleanup and Disposal Plan (SIP) has been organized into the following sections:

Section 1: Introduction & Background

This section includes the project introduction, building description, project scope, and project objectives.

Section 2: Site Characterization

The Site Characterization section provides a summary of the sampling performed to delineate the nature and extent of PCB present as required and in accordance with 40 CFR Part 761.61 (a) (3) (A-C). The section also includes the nature of the substrate and exterior soil contamination including types of materials, a summary of procedures used to sample the source materials and adjacent porous surfaces, and the location and extent of the identified contaminated areas.

Section 3: Self Implementing Clean-up and Disposal Plan

The Self Implementing Clean-Up and Disposal Plan (SIP) includes a discussion of how the project objectives defined in Sections 1.2 and 1.3 shall be achieved, the remediation approach, clean up levels, monitoring during remediation, and post remediation verification sampling protocol. The Self Implementing Clean-Up and Disposal Plan is submitted in accordance with §761.61 (a) (3).

Section 4: Schedule and Certification

Under this section, the proposed scheduling for implementation of the remediation work and reporting is provided. This section also includes the written certification signed by the owner of the property and other responsible party's responsibilities for the remediation, clean up and disposal in accordance with §761.61 (a) (3) (E).

SELF-IMPLEMENTING ON-SITE CLEANUP AND DISPOSAL PLAN  
FOR PCB-CONTAINING CAULK AND SOIL  
4 ELMCREST TERRACE, NORWALK, CONNECTICUT

**SECTION 1: BACKGROUND, SCOPE, AND OBJECTIVES**

**1.1 Introduction and Background**

Liberation Programs, Inc. (Liberation Programs) retained Eagle Environmental Inc. (Eagle) to conduct a hazardous building materials field investigation in support of the planned renovation project scheduled at the vacant building located 4 Elmcrest Terrace in Norwalk, Connecticut. During the course of the field investigation phase for hazardous building materials at the site, concentrations of polychlorinated biphenyl (PCB) in excess of one (1) part-per-million (ppm) were identified in residual window frame caulk, door frame caulk, ventilation louver caulk, and air conditioning unit (A/C) sleeve caulk throughout the building.

Follow-up investigations were conducted to further assess the source caulks and to characterize adjacent porous substrates and soil. The follow-up investigations verified PCBs in excess of one (1) ppm but less than fifty (50) ppm in interior and exterior door frame caulk throughout the building. The interior door frame caulk also contains regulated asbestos.

PCB greater than fifty (50) ppm was identified in the residual exterior window frame caulk, ventilation louver caulk, and A/C sleeve caulk throughout the building.

PCB greater than one (1) ppm but less than fifty (50) ppm was also identified in the porous substrate materials (interior CMU/mortar and exterior brick/mortar) adjacent to the source window frame, door frame, and A/C sleeve caulk and assumed on the non-porous steel lintels adjacent to window and door frame caulk throughout the building.

PCB greater than fifty (50) ppm was identified in the exterior stone window sills adjacent to A/C caulk and PCB greater than one (1) ppm was identified in soils adjacent to the exterior building perimeter.

Liberation Programs has retained Eagle to prepare this Self Implementing Clean-Up and Disposal Plan (SIP) to comply with the United States Department of Environmental Protection (USEPA) requirements for notification of a Risk-Based Remediation Action Plan in accordance with USEPA Regulation §761.61 (a) (3).

**1.2 Building Description and Project Scope**

The subject building located at 4 Elmcrest Terrace in Norwalk, Connecticut is a three story structure of steel, concrete, and brick construction built in 1966. The building has a full basement and a partial sub-basement. The interior load supporting walls are CMU/mortar. The interior partition walls and ceilings are of sheetrock and joint compound construction. Floor decks are poured concrete slab. The floors are finished with various resilient flooring finishes and exposed concrete. There is a central hydronic baseboard heating system.

Perimeter walls are CMU/mortar on concrete floor decks. Exterior facades are clad with brick/mortar veneer.

The window frames and sashes are replacements of vinyl construction caulked with silicone. There is an older, residual caulk at exterior window openings throughout the building in contact with the exterior brick veneer. Steel lintels support the brick veneer above the window openings.

Interior door frames are steel and caulked into CMU/mortar door openings. Exterior steel door frames are caulked into brick/mortar. Headers above door openings are either concrete beams or steel lintels.

A/C units are installed in metal sleeves in openings in the brick veneer beneath windows.

The building is currently vacant but formerly served as a health care facility. Extensive renovations are planned to remodel the building for future use as a residential facility.

The renovation work pertaining to this application will involve complete removal of the exterior brick veneer, the removal of all door frames, window frames, exterior ventilation louvers, and demolition of specific interior walls.

Prior to or concurrently with the renovation work, PCB remediation will be performed to include the following:

1. removal of all exterior windows;
2. removal of all exterior ventilation louvers;
3. removal of all door systems;
4. removal of all A/C window units and sleeves;
5. removal of all exterior stone window sills;
6. removal of contaminated exterior brick/mortar;
7. decontamination and/or removal of exterior steel lintels
8. removal of or decontamination of all contaminated interior CMU/mortar;
9. decontamination of interior steel lintels; and,
10. removal of contaminated soil adjacent to the building perimeter.

The remediation work will include the removal and disposal of regulated, unauthorized PCB window, ventilation louver, and A/C caulk and associated porous substrates and soil. Excluded door caulk and brick/lintel caulk will be removed and disposed of and associated porous substrate materials will be removed and disposed of or cleaned.

The general scope of the project includes removal and disposal of:

- Approximately eighty-six (86) window systems and associated stone sills;
- Approximately ninety-two (92) door systems;
- Approximately thirty-eight (38) A/C unit sleeves;
- Approximately seventeen (17) ventilation louvers; and,
- Approximately eighty (80) cubic yards of contaminated soil.

Interior porous substrates and interior steel door lintels adjacent to excluded door frame caulk containing greater than one (1) but less than fifty (50) ppm PCB and are scheduled to be decontaminated and remain in place. The estimated quantities are represented below:

- Approximately one-thousand one-hundred and twenty (1,120) square feet of interior CMU/mortar; and,
- Approximately thirty (30) square feet of steel lintels.

The PCB Remediation Plans (HM-1.1 and HM-1.5) are attached as Diagram 2.1.

### **1.3 Project Objectives**

Excluded tan interior door frame caulk and contaminated door frames will be removed and disposed of as "Mixed Regulated Asbestos - PCB Remediation Waste less than fifty (50)". Interior CMU/mortar contaminated by the interior excluded door caulk will be removed and

disposed of as "Mixed Regulated Asbestos - PCB Remediation Waste less than fifty (50) ppm" where scheduled. Interior CMU/mortar and steel lintels contaminated by the excluded caulk will be cleaned and decontaminated where demolition of such materials is not scheduled.

Excluded white exterior door frame caulk and contaminated door frames will be removed and disposed of as if it were "PCB Remediation Waste less than fifty (50)". Exterior brick/mortar contaminated by the excluded caulk will be removed and disposed of as "PCB Remediation Waste less than fifty (50)" where scheduled. Exterior brick/mortar and steel lintels contaminated by the excluded caulk will be cleaned and decontaminated where demolition of such materials is not scheduled.

Excluded soft white exterior caulk at brick/lintel junction will be removed and disposed of as "PCB Remediation Waste less than fifty (50)". Exterior lintels in contact with the excluded caulk will be cleaned and/or disposed of as "PCB Remediation Waste less than fifty (50) ppm".

A/C sleeve caulk and associated contaminated metal sleeves will be removed and disposed of as "PCB Bulk Product Waste".

Residual window caulk will be removed and disposed of as "PCB Bulk Product Waste". Window frames and associated newer caulks contaminated with residual window caulk will be removed and disposed of as "PCB Bulk Product Waste". Exterior lintels in contact with the Bulk Product Waste will be cleaned or disposed of as "PCB Bulk Product Waste".

Ventilation louver caulk will be removed and disposed of as "PCB Bulk Product Waste". Ventilation louver components contaminated with residual caulk will be removed and disposed of as "PCB Bulk Product Waste".

PCB Bulk Product Waste may be subjected to TCLP testing and disposed of accordingly.

Brick/mortar veneer contaminated by residual window caulk, A/C sleeve caulk, or ventilation louver caulk will be removed and disposed of as "PCB Remediation Waste less than fifty (50) ppm". Exterior stone window sills will be removed and disposed of as "PCB Remediation Waste greater than fifty (50) ppm".

Exterior soil in Areas one (1) through four (4) containing greater than one (1) but less than fifty (50) ppm of PCB will be removed and disposed of as "PCB Remediation Waste less than fifty (50) ppm".

Exterior soil in Area five (5) containing greater than fifty (50) ppm of PCB will be removed and disposed of as "PCB Remediation Waste greater than fifty (50) ppm".

Spent cleaning supplies and containment materials used in the remediation of source materials containing greater than fifty (50) ppm PCB will be disposed of as "PCB Remediation Waste greater than fifty (50) ppm".

Spent cleaning supplies and containment materials used in the remediation of source materials containing less than fifty (50) ppm of PCB but greater than one (1) ppm of PCB will be disposed of as "PCB Remediation Waste less than fifty (50)" or "Mixed Regulated Asbestos - PCB Remediation Waste less than fifty (50) ppm" as appropriate.

The remediation of source materials, substrates, and soils will be accomplished to meet the unrestricted use clean-up standard for high-occupancy use structures as defined in §761.61 (a)(4)(A).



## **SECTION 2: SITE CHARACTERIZATION**

This section provides a summary of the sampling performed to delineate the nature and extent of PCB present as required and in accordance with §761.61 (a) (3) (A-C). The section also includes the nature of the substrate contamination including types of materials, a summary of procedures used to sample soils and substrates, and the location and extent of the identified contaminated soils and substrates.

The initial site characterization of source materials and the follow-up characterizations of soil and substrates were performed by Eagle. Diagrams depicting the sampling locations of source materials, adjacent porous substrates, and soils are included, attached as Diagrams 3-1 through 3-13.

Door frame caulk throughout the building was determined to be “excluded PCB product” under §761.20(a)(1) as the door caulk contains PCB materials as a result of historic use of PCBs in the manufacture of caulk prior to US regulation of PCB, was legally manufactured and used prior to October 1, 1984, as the building was constructed in the 1960s, and because the current PCB concentration of the door caulk is not the result of dilution or of leaks or spills in concentrations greater than 50 ppm.

Excluded interior door frame caulk throughout the building was also found to contain regulated asbestos.

### **2.1 Sample Collection and Analysis**

#### **2.1.1 Source Sampling**

Eagle conducted source material sampling on October 11, 2011 and on November 4, 2011.

Source sampling involved removal of bulk caulking and glazing compounds from the window and door systems using hand tools to collect representative bulk source materials. Tools utilized to collect samples were decontaminated prior to and in between successive sampling using soap and water and hexane to prevent cross contamination of samples. Each sample was placed in an individual, pre-cleaned four (4) ounce glass container, sealed with a Teflon-lined cap, labeled, and placed on ice packs in a cooler for transportation from the site. Samples were stored in the cooler of in a refrigerator until delivered to or picked up by the laboratory under proper chain of custody.

All sixteen (16) source samples were analyzed at Phoenix Environmental Laboratories, Inc. located in Manchester Connecticut. PCB was extracted from samples using USEPA Extraction Method 3540C and analyzed using EPA Method SW846 8082.

The sample numbers, locations, material descriptions, and analytical results are summarized in Table I, attached as Appendix A.

#### **2.1.2 Substrate Sampling**

Eagle collected porous “substrate” samples on November 4, November 7, and December 13, 2011 and on April 26, 2012.

Eagle Environmental conducted sampling of the porous masonry substrates in accordance with USEPA Region 1 *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs) Revision 4, May 5, 2011*.

Sample locations were prepared by carefully removing the source caulk (if present) using hand tools such as paint scrapers and chisels, then cleaning the surface of all visible source material using a hard bristle brush. The sample area was then scrubbed with a cleaning pad saturated with hexane. The sample location was then rinsed with hexane and dried with a clean paper towel. Residual hexane was allowed to evaporate prior to sample collection. The intent was to ensure complete removal of bulk source material prior to substrate sampling.

Bulk substrate samples were collected using a mechanical drill with a one-half (1/2) inch masonry bit to drill holes approximately one-half (1/2) inch deep. A clean sheet of paper was taped to the substrate directly below the sample holes to capture the substrate sample material generated by the drilling. Multiple holes were drilled as required to obtain enough substrate material for analysis. Each sample was transferred to an individual, pre-cleaned, Teflon sealed, labeled glass container, kept chilled, and delivered to or picked up by the laboratory under proper chain of custody. The paper used to collect the substrate sample was discarded and a clean sheet of paper was used for each successive substrate sample collection. Residual bulk substrate materials were washed from the drill bit with soap and water followed by decontamination using hexane prior to and in between each successive sampling to avoid cross contamination.

Forty two (42) bulk substrate samples of concrete, stone, brick, CMU, and mortar were collected within zero (0) to one (1) inches of the previously existing caulk line. These sample were called "first course" substrate samples.

Thirteen (13) bulk substrate samples of CMU, brick, and mortar were collected within zero (0) to one (1) inches past the first vertical or horizontal grout line from the existing caulk line, generally one-half (1/2) of the length of the masonry unit (eight (8) inches for CMU, six (6) inches for brick). These sample were called "second course" substrate samples.

Six (6) bulk substrate samples of brick and mortar were collected within zero (0) to one (1) inches past the second vertical grout line from the existing caulk line, generally one (1) full length of the masonry unit (twelve (12) inches for brick). These sample were called "second course" substrate samples.

The sixty-one (61) porous substrate samples were submitted for PCB analysis at Phoenix Environmental Laboratories, Inc. located in Manchester Connecticut. PCB was extracted from samples using USEPA Extraction Method 3540C and samples were analyzed using EPA method SW846 8082.

The sample numbers, locations, material description, and analysis reports are summarized in Table II attached as Appendix B.

### 2.1.3 Soil Sampling

Eagle collected fifteen (25) composite samples of soil adjacent to the building on November 7 and December 6, 2011.

Soil samples were collected from five (5) different areas at distances of eight (8) inches, sixteen (16) inches, twenty-four (24) inches, thirty two (32) inches and forty eight (48) inches from the foundation walls. Each sample was composited from three (3) sub-samples at the grid levels. Various tools including a claw hammer and a metal paint scraper were used to loosen the soil. The tools were decontaminated prior to and in between successive using soap and hexane to avoid cross contamination. Disposable plastic scoops were used to collect the samples to a depth of approximately four (4) to six (6) inches. Scoops were disposed of after each composite sample collection avoid cross contamination. Each sample was transferred to an individual, pre-cleaned, Teflon sealed, labeled glass container, kept chilled, and delivered to or picked up by the laboratory under proper chain of custody.

The twenty-five (25) samples were analyzed at Phoenix Environmental Laboratories, Inc. located in Manchester Connecticut. PCB was extracted from samples using USEPA Extraction Method 3540C and were analyzed using EPA method SW846 8082.

The sample numbers, locations, material description, and analysis results are summarized in Table III, attached as Appendix C.

#### 2.1.4 Hydraulic Oil Sampling

Eagle collected one (1) sample of hydraulic oil from the elevator well tank on November 7, 2011.

The oil sample was drawn from the hydraulic oil tank then the sample was transferred to an individual, pre-cleaned, Teflon sealed, labeled glass container, kept chilled, and delivered to or picked up by the laboratory under proper chain of custody.

The sample was analyzed at Phoenix Environmental Laboratories, Inc. located in Manchester Connecticut. PCB was extracted from samples using USEPA Extraction Method 3540C and were analyzed using EPA method SW846 8082.

The sample number, location, material description, and analysis results are summarized in Table IV, attached as Appendix D.

## 2.2 **Sample Results Summary**

### 2.2.1 Source Samples

The results of the source sampling are summarized below:

- Tan interior door casing caulk: 3 to 36 ppm (seven samples);
- White exterior door frame caulk: 1.9 to 30 ppm (three samples);
- Residual white exterior window caulk: 49 to 87 ppm (two samples);
- White exterior ventilation louver caulk: 49 to 87 ppm (visually determined to be the same material as the residual window caulk);
- White exterior A/C unit caulk: 1,000 to 1,700 ppm (two samples); and,
- Soft white exterior caulk at lintels: 25 to 33 ppm (two samples).

### 2.2.2 Substrate Samples

#### 2.2.2.1 First Course

The results of the "first course" substrate sampling are summarized below:

- Interior CMU adjacent to door frames: ND to 1.5 ppm (fourteen samples);
- Interior concrete headers above doors: ND to 0.7 ppm (five samples);
- Exterior red brick adjacent to window frames: ND to 5.7 ppm (nine samples);
- Exterior red brick adjacent to door frames: ND to 0.45 ppm (two samples);
- Exterior red brick above the lintels: ND (two samples);
- Exterior white brick adjacent to A/C unit sleeves: ND to 10 ppm (five samples);
- Exterior stone sills under A/C unit sleeves: ND to 1,100 ppm (three samples); and,
- Exterior mortar under stone sills: ND to 17 ppm (two samples).

### 2.2.2.2 Second Course

The results of the “second course” substrate sampling are summarized below:

- Interior CMU adjacent to door frames: ND to 0.48 (two samples);
- Exterior red brick adjacent to window frames: ND to 3.7 (five samples);
- Exterior mortar adjacent to window frames: 1.4 to 4.5 (two samples);
- Exterior white brick adjacent to A/C unit sleeves: ND (one sample); and,
- Exterior white and red brick under stone sills: ND (three samples).

### 2.2.2.3 Third Course

The results of the “third course” substrate sampling are summarized below:

- Exterior red brick adjacent to window frames: ND to 0.7 (three samples); and,
- Exterior mortar adjacent to window frames: ND to 0.8 (three samples).

### 2.2.3 Composite Soil Samples

Twenty (20) of the twenty one (21) composite soil samples were reported to have PCB concentrations in excess of one (1) ppm. The reported laboratory results were multiplied by the number of subsamples (3) comprising the composited samples to account for potential dilution. Corrected results are summarized as follows:

	<u>Area 1</u>	<u>Area 2</u>	<u>Area 3</u>	<u>Area 4</u>	<u>Area 5</u>
8” from foundation, 4” depth	6.4	18	2.6	15	42
16” from foundation, 4” depth	8.4	18	2.4	14	94
24” from foundation, 4” depth	3.6	16	0.54	7.4	38
32” from foundation, 4 inch depth	2.4	10		7.8	14
32” from foundation, 6 inch depth		3.4			2.4
48” from foundation, 4 inch depth	1.6	4.0		1.3	4.5

## 2.3 Remedial Response

### 2.3.1 Source Remediation

Source residual exterior window caulk that is scheduled for removal is greater than fifty (50) ppm PCB. It will be removed and disposed of as “PCB Bulk Product Waste”. Window system components contaminated by residual exterior caulk will be disposed of as “PCB Bulk Product Waste”.

Source ventilation louver caulk is scheduled for removal and is presumed greater than fifty (50) ppm PCB. It will be removed and disposed of as “PCB Bulk Product Waste”. Ventilation louver components contaminated by residual exterior caulk will be disposed of as “PCB Bulk Product Waste”.

Source caulk at metal A/C unit sleeves is greater than fifty (50) ppm PCB. All caulk at A/C unit sleeves will be removed and disposed of as “PCB Bulk Product Waste”. Metal A/C unit sleeves contaminated with A/C caulk will be removed and disposed of “PCB Bulk Product Waste”.

Source interior caulk at door systems that are scheduled for removal are excluded but greater than one (1) and less than fifty (50) ppm PCB and also contain regulated levels of asbestos. Door caulk will be removed and disposed of as "Mixed Regulated Asbestos - PCB Remediation Waste less than fifty (50) ppm" to meet the requirements of Connecticut Department of Energy and Environmental Protection (DEEP) and the State of Connecticut Department of Public Health. Door system components contaminated by door caulk will also be disposed of as "Mixed Regulated Asbestos - PCB Bulk Remediation Waste less than fifty (50) ppm".

Source exterior caulk at door systems that are scheduled for removal are excluded but greater than one (1) and less than fifty (50) ppm PCB. Door caulk will be removed and disposed of as "PCB Remediation Waste less than fifty (50) ppm" to meet the requirements of Connecticut DEEP. Door system components contaminated by door caulk will also be disposed of as "Mixed Regulated Asbestos - PCB Bulk Remediation Waste less than fifty (50) ppm".

Source soft white exterior caulk at penthouse window lintels that is greater than one (1) ppm but less than fifty (50) ppm PCB will be removed and disposed of as "PCB Remediation Waste less than fifty (50) ppm".

### **2.3.2 Substrate Remediation**

Exterior brick/mortar within eight (8) inches (course 1 and course 2) of a window caulk, or vent louver caulk will be removed, cleaned of residual caulk, and disposed of as PCB Remediation Waste less than fifty (50) ppm.

Exterior steel lintels above window openings will be decontaminated and verified to be less than ten (10) micrograms per one-hundred (100) square centimeters of surface area or cleaned, characterized and disposed of accordingly.

The exterior stone window sills will be removed and disposed of as "PCB Remediation Waste greater than fifty (50) ppm". Brick and mortar within four (4) inches (course 1) below exterior stone window sills will be removed and disposed of as "PCB Remediation Waste less than fifty (50) ppm". Exterior brick and mortar within six (6) inches of A/C sleeve caulk will be removed and disposed of as "PCB Remediation Waste less than fifty (50) ppm". Metal A/C sleeves will be removed and disposed of PCB Remediation Waste greater than fifty (50) ppm.

Interior CMU/mortar within eight (8) inches of a door caulk line will be removed and disposed of as PCB Remediation Waste less than fifty (50) ppm in scheduled areas. Remaining interior CMU/mortar and steel lintels within eight (8) inches of interior door caulk will be cleaned. CMU/mortar will be cleaned to less than one (1) ppm PCB and steel lintels will be cleaned to less than ten (10) micrograms per one-hundred (100) square centimeters of surface area.

### **2.3.3 Soil Remediation**

Exterior soil on sides A, B and C of the building will be remediated to a minimum distance of sixty (60) inches from the exterior walls to a minimum depth of twelve (12) inches below grade or until sample results indicate that PCB concentrations in the remaining soil is equal to or less than one (1) ppm PCB be disposed of "PCB Remediation Waste less than fifty (50) ppm".

Remediated soil from Area 5 within sixty (60) inches of the building foundation will be disposed of as "PCB Remediation Waste greater than fifty (50)".

## **2.4 Site Characterization Summary**

A summary of the waste classifications for source and substrate materials identified at the site is presented in TABLE 2.4 below:

TABLE 2.4– Summary of Waste Classifications for Source and Substrate Materials

Source Material	Locations	PCB Waste Classification	Associated Substrate	PCB Concentration or Waste Classification	Quantity
Tan Door Frame Caulk (Type A)	Interior Steel Door Frames	Excluded Product (<50 ppm)	Interior CMU/Mortar	Course 1: Remediation Waste < 50 ppm (demo)	612 SF
				Course 1: Remediation Waste < 50 ppm (clean)	1,120 SF
				Course 2: <1.0	N/A
			Steel Lintels	<50 (clean)	30 SF
White Door Frame Caulk (Type B)	Exterior Steel Door Frames at Rooftop	Excluded Product (<50 ppm)	Exterior Brick/Mortar	<1.0	N/A
				Course 1: Remediation Waste < 50 ppm	22 SF
			Steel Lintels	Course 2: <1.0	N/A
Soft White Caulk (Type C)	At lintels on Rooftop Penthouse Windows	Excluded Product (<50 ppm)	Exterior Brick/Mortar	Assumed <50 ppm (clean)	5 SF
				Course 1: Remediation Waste < 50 ppm	5 SF
			Steel Lintels	Course 2: <1.0	N/A
Residual Original Window Caulk (Type D)	Exterior Windows and Ventilation Louvers	Bulk Product Waste	Exterior Brick/Mortar	Assumed <50 ppm (demo and clean)	5 SF
				Course 1: Remediation Waste < 50 ppm	30 SF
				Course 2: Remediation Waste < 50 ppm	1,520 SF
			Exterior Stone Sills	Course 3: <1.0	N/A
White Caulk (Type E)	Metal A/C Sleeves Under Exterior Windows	Bulk Product Waste	Steel Lintels	Remediation Waste ≥50 ppm	430 SF
			Metal A/C Sleeves	Assumed >50 (clean or demo)	375 SF
				Remediation Waste ≥50 ppm	38 EA
Soil	Area 1	Remediation Waste < 50 ppm	N/A	Course 1: Remediation Waste < 50 ppm	110 SF
	Area 2	Remediation Waste < 50 ppm		Course 2: <1.0	N/A
	Area 3	Remediation Waste < 50 ppm			
	Area 4	Remediation Waste < 50 ppm			
	Area 5	Remediation Waste ≥ 50 ppm			

### **SECTION 3 – REMEDIATION ACTION PLAN**

The work described in this Self Implementing Clean-Up and Disposal Plan (SIP) shall meet the objectives identified in Part 1.3, Project Objectives, in accordance with 40 CFR Part 761. The remediation work shall be performed to ensure compliance with EPA Toxic Substance Control Act (TSCA) requirements and protect occupational and public health and the environment. Materials classified as PCB Bulk Product Waste and PCB Bulk Remediation Waste shall be

properly removed and disposed of in compliance with federal and state regulatory requirements.

The proposed remediation activities to be performed by the remediation contractor shall include the following:

1. Site preparation in accordance with the *Specification for PCB-Containing Window and Door Caulk, Soil, and Substrate Remediation, 4 Elmcrest Terrace, Norwalk, Connecticut Section 02110* to facilitate the safe remediation of PCB;
2. Health and Safety in accordance with Occupation Safety and Health Administration (OSHA) requirements;
3. Remediation of the PCB-containing source materials, substrate materials, and soils summarized in Table 2.4 of this SIP in accordance with the *Specification for PCB-Containing Window and Door Caulk, Soil, and Substrate Remediation, 4 Elmcrest Terrace, Norwalk, Connecticut Section 02110*.
4. Recordkeeping and distribution as required in accordance with §761.125 (c) (5).
5. Waste stream characterization including PCB TCLP of Bulk Product Waste.

Remediation activities to be performed by others shall include the following:

1. Monitoring remediation activities as Owner's representative shall be performed by Eagle Environmental, Inc.
2. Collection of verification samples in accordance with §761 Subparts P and O for PCB analysis shall be performed by Eagle Environmental, Inc.
3. Building renovation and site restoration shall be performed by the building owner under a separate existing contract in conjunction with PCB remediation.

Prior to abatement and remediation activities, site preparation and controls shall be established:

PCB Bulk Product Waste streams will be subjected to TCLP characterization. If the TCLP leachate is reported to be less than ten (10) micrograms per liter (ug/l, ppb) PCB, then the waste will be transported to and disposed of in a state-approved non-hazardous solid waste disposal facility in accordance with §761.62(b)(ii). Alternately, PCB Bulk Product Waste may forgo the TCLP testing and be disposed of in a TSCA-approved disposal facility or a RCRA Hazardous Waste Landfill in accordance with §761.61 (a)(5)(i)(B)(2)(iii).

PCB Remediation Waste containing greater than or equal to fifty (50) ppm will be removed and transported off-site for disposal at a permitted hazardous waste landfill which is a TSCA-approved disposal facility or a RCRA Hazardous Waste Landfill. PCB Bulk Product Waste shall be removed and properly disposed of in accordance with §761.61 (a)(5)(i)(B)(2)(iii).

PCB Remediation Waste less than fifty (50) ppm and Mixed Regulated Asbestos – PCB Remediation Waste containing less than fifty (50) ppm PCB will be transported to a state-approved non-hazardous solid waste disposal facility. PCB Remediation waste shall be removed in accordance with this Self Implementing Clean-Up and Disposal Plan requirements in accordance with §761.61 (a)(5)(i)(B)(2)(ii).

### **3.1 Site Preparation and Controls**

The work shall be performed in accordance with the attached performance based *Specification for PCB-Containing Window and Door Caulk, Soil, and Substrate Remediation, 4 Elmcrest Terrace, Norwalk, Connecticut Section 02110* attached as Appendix E.

Prior to initiating PCB Removal the following site controls will be implemented:

1. The Remediation Contractor shall prepare a Work Plan, a Disposal Plan and a Health & Safety Plan (HASP) specific to the site and work activities to be performed. The plans shall be endorsed by a Certified Industrial Hygienist (CIH) or a Certified Safety Professional (CSP).
2. All workers shall follow applicable federal and state regulation with regard to work activities, including but not limited to OSHA regulations including training, personal protection and respiratory protection requirements.
3. Work zones shall be established in accordance with the *Specification for PCB-Containing Window and Door Caulk, Soil, and Substrate Remediation, 4 Elmcrest Terrace, Norwalk, Connecticut Section 02110* to include an abatement zone, a decontamination zone, and a support zone. Work areas will be secured in the following ways:
  - All approaches to work areas shall be restricted with barriers (i.e. orange construction fencing) properly posted with signage;
  - All interior removal work (door frame caulk remediation) will be performed using full containment procedure covering the floor, wall, and ceiling surfaces with two (2) layers of 6-mil polyethylene sheeting and the contractor shall establish negative pressure inside the containment with the use of negative air filtration units with HEPA filtration;
  - To ensure that exterior work will not contaminate interior areas of the building, exterior remediation areas will be isolated from the interior areas of the building by polyethylene barriers consisting of two layers of six (6) mil polyethylene sheeting or equivalent to prevent accidental entry and air exchange into the building. All openings into the building interior such as unit ventilation, ducts and grilles shall be securely sealed. Ground protection consisting of tarps, polyethylene sheeting, or drop clothes will be used to protect the exterior soils and hardscapes;
  - Work will be performed using appropriate engineering controls including HEPA filter equipped tools and misting to prevent exposure from the work and migration of contaminants;
  - All debris generated during operations including but not limited to visible caulking, dust and debris shall be HEPA vacuumed continuously throughout the work shift and at the end of the work shift to avoid accumulation. Any tears or rips that occur in polyethylene barriers shall be repaired or removed and replaced with new protections;
  - All equipment utilized to perform cutting, or demolition of adjacent materials shall be equipped with appropriate dust collection systems. Ladders, scaffolding, or lifts utilized to remove the windows will be properly decontaminated as addressed in the Contractors work plan prior to removal from the work area; and,
  - Appropriate PCB waste containers shall be placed adjacent to abatement zones. Containers shall be lined, covered and secured.
  - Wind/weather screens and erosion controls will be established as required to prevent migration of contaminants.

### **3.2 Remediation Procedures**

The following removal procedures shall be utilized to conduct PCB Bulk Product Waste and PCB Bulk Remediation Waste removal.



### 3.2.1 Remediation of PCB Bulk Products and Associated Remediation Wastes

“PCB Bulk Product Waste Materials” include residual exterior window caulk, louver caulk, and A/C caulk. PCB Remediation Waste greater than fifty (50) ppm includes contaminated A/C sleeves, stone sills, window system components, louvers, and soils from Area 5, and ground protection used in the remediation of PCB Bulk Product Wastes. These materials shall be handled and removed from specified locations for proper disposal. Materials shall be removed in a manner that does not breakdown the materials into fine dust or powder to the extent feasible. Tools to be utilized shall include hand tools such as sharp point scrapers to remove materials from adjacent substrates. Any mechanical removal equipment shall be appropriately fitted with dust collection systems. Any dry or brittle caulking shall be removed with additional engineering controls such as use of an attached HEPA vacuum and a HEPA vacuum to remove accumulated dust or debris during removal. Once removed, materials shall be placed in lined containers or into appropriate temporary containers such as six (6)-mil polyethylene disposal bags for controlled transport to PCB waste containers at the end of each work shift. PCB Bulk Product Waste shall be stored for disposal in accordance with §761.65. All waste containers shall be appropriately marked in accordance with §761.40 & §761.45.

### 3.2.2 Remediation of PCB Remediation Waste Materials

“PCB Remediation Waste less than fifty (50) ppm” includes exterior brick/mortar associated with window frame, door frame, and lintel caulk. “Mixed Regulated Asbestos - PCB Remediation Waste less than fifty (50) ppm” materials includes interior door frames and associated excluded caulk, soil, cleaning byproducts, and used containment barriers and ground protection used remediation of PCB less than fifty (50) ppm. Waste shall be immediately containerized in temporary six (6)-mil polyethylene sheeting or disposal bags for disposal. These packages shall be sealed in abatement zone during collection and then placed in disposal containers/storage trailers. Containers shall not be emptied into other containers to avoid dispersal of dust or fugitive emissions. No dry sweeping, dusting, or blowing shall be allowed.

The use of water mist to moisten the generated dust prior to collection shall be utilized. Under no circumstances shall the “PCB Remediation Waste” show evidence of free liquid water or pooling within the waste stream. Any liquid used to wet the dust and debris to control fugitive emissions shall be collected and disposed of as PCB Liquid Waste in accordance with §761.61 (a)(5)(iv). All rags and other cleaning materials used to clean shall also be properly disposed of as PCB Remediation Waste less than fifty (50) ppm. All PCB Remediation Waste shall be stored for disposal in accordance with §Part. 761.65. All waste containers shall be appropriately labeled in accordance with §761.40 & §761.45.

Once materials have been removed and surfaces cleaned, Eagle shall be notified to conduct post removal visual inspections and verification sampling.

## 3.3 **Air Monitoring During Remediation**

The Contractor will use a Real Time Area Aerosol Monitor to perform background air sampling outside the contained work area to ascertain concentration of airborne particulate matter during the removal. The instrument is a direct continuous read instrument and the data can be downloaded to a computer. The instrument will be programmed to collect readings every five minutes and compute an overall daily average. Before remediation work begins, the Contractor will determine the existing backgrounds concentration (baseline levels) for comparison to readings collected during the work. We will use the value of the baseline average as the target value that will trigger a response action. If a spike exceeding the baseline average is observed for any given timeframe, the Contractor will investigate the cause of the spike and discuss corrective actions with Eagle.

### **3.4 Post-Remediation Verification Sampling Plan**

Following the completion of the removal of PCB Bulk Product Waste and PCB Remediation Waste, Eagle Environmental, Inc shall implement the following sampling verification plan in accordance with §761.61 (a)(6)(v)(A)(6) and Subparts O and P.

Upon completion of work in each area, a visual inspection of all remediated surfaces for visible evidence of dust and debris shall be performed. Surfaces shall also be inspected for visible PCB source materials that may not have been removed. The visual inspection shall provide in a preliminary way, verification that remediation work has been completed in accordance with this Plan. The visual inspection shall ensure that no visible dust or debris is present on adjacent surfaces where caulks and substrates were removed.

In addition to the remediated surfaces, the surfaces of protective coverings and isolation barriers shall be inspected to ensure they are cleaned of dust and debris. No verification sampling shall be performed until the visual inspection is complete and the clearance criteria satisfied.

#### **3.4.1 Verification Wipe Samples**

Verification wipe samples will be collected from the surfaces of decontaminated steel lintels in strict accordance with §761 Subpart P. The criteria for successful verification shall be ten (10) micrograms ( $\mu\text{g}$ ) per one-hundred (100) square centimeters ( $\text{cm}^2$ ) of surface. If any location exceeds this clearance objective, the owner's consultant will discuss additional remedial actions with the owner that may include addition cleaning or removal and disposal.

Samples will be analyzed at Phoenix Environmental Laboratories, Inc. located in Manchester Connecticut. PCB will be extracted from samples using USEPA Extraction Method 3540C and were analyzed using EPA method SW846 8082.

#### **3.4.2 Verification Bulk Samples**

Verification bulk samples will be collected from cleaned CMU/mortar and remediated soil areas within the regulated work areas in strict accordance with §761 Subpart O. The criteria for successful verification shall be one (1) ppm PCB. If any location exceeds this clearance objective, the owner's consultant will discuss additional remedial actions with the owner that may include addition cleaning or removal and disposal of CMU/mortar and/or additional removal and disposal of soil.

Samples will be analyzed at Phoenix Environmental Laboratories, Inc. located in Manchester Connecticut. PCB will be extracted from samples using USEPA Extraction Method 3540C and were analyzed using EPA method SW846 8082.

### **3.5 Bulk Product Waste Characterization**

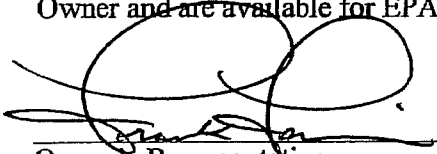
The Contractor may conduct TCLP characterization of the PCB Bulk Product Waste streams in accordance with §761 Subpart R. If the TCLP leachate is reported to be less than ten (10) micrograms per liter ( $\mu\text{g/l}$ , ppb) PCB, then the waste may be transported to and disposed of in a state-approved non-hazardous solid waste disposal facility in accordance with §761.62(b)(ii).

Samples will be analyzed at Phoenix Environmental Laboratories, Inc. located in Manchester Connecticut. PCB will be extracted from samples using USEPA Extraction Method 3540C and were analyzed using EPA method SW846 8082.


#### SECTION 4: SCHEDULE AND PLAN CERTIFICATION

It is the intent of the Owner, Liberation Programs, Inc., to begin the removal of PCB Bulk Product Waste, PCB Bulk Remediation Waste, and the cleaning of substrate materials upon acceptance of this Self Implementing Clean-Up and Disposal Plan. It is anticipated that the work shall be performed as expeditiously as possible to meet the construction schedule. Upon completing the PCB Remediation and verification sampling confirming that the Project Objectives have been met, the renovation work shall commence.

The Owner hereby certifies that all the sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file with the Owner and are available for EPA inspection.

  
Owner's Representative  
Name: FRANK FARIAS  
Title: CFO

7-30-2012  
Date

  
Eagle Environmental, Inc. Representative  
Chris Liberti  
Senior Project Manager

7-30-12  
Date

\_\_\_\_\_  
Remediation Contactor  
(to be determined)

\_\_\_\_\_  
Date

This work plan was prepared to support applications under the Code of Federal regulations Title 40 Section 761.79 (h) and 40 CFR 761.61 (e) for EPA approval of alternative decontamination and sampling approaches for specified porous materials impacted by specified non-liquid PCB-containing caulking, glazing, and soil associated with the building located at 4 Elmcrest Terrace in Norwalk, Connecticut. Decontamination sampling procedures and post abatement acceptance criteria will be based on post abatement visual inspections and applicable confirmatory bulk, wipe, and air sampling.